



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,185	02/06/2004	George J. Alexandropoulos	GEE-001.01	7204

32836 7590 12/02/2005

GUERIN & RODRIGUEZ, LLP  
5 MOUNT ROYAL AVENUE  
MOUNT ROYAL OFFICE PARK  
MARLBOROUGH, MA 01752

EXAMINER

SQUIRES, BRETT S

ART UNIT PAPER NUMBER

2836

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/774,185

Applicant(s)

ALEXANDROPOULOS, GEORGE J.

Examiner

Brett S. Squires

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 9-10, 17-20, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Asher (US 4,447,850).

Asher discloses an electronic lock for restricting access by a locking element ("Spring-Bolt Solenoid" col. 3 lines 18-21) to a restricted-access space defined within an enclosure ("Plants, Offices, and Apartments" col. 1 lines 4-42), counting a number of trigger events during successive time intervals (figure 2 and col. 2 lines 20-62), each time interval having a predetermined duration where the number of trigger events counted during a given time interval can be greater than one (figure 2 and col. 2 lines 20-62 [The predetermined time interval for each digit is based on the number of trigger events to be counted in that time interval and all of the trigger events for a complete digit must occur before the time interval indicating the digit is complete (1.5 seconds).]), associating the number of trigger events counted in each time interval with one digit of a digit sequence representing a code being submitted to actuate the locking element and gain access to the restricted-access space where each digit of the digit sequence corresponds to the number of trigger events counted during one of the successive time interval and can have a value greater than one (figure 2, col. 1 lines 43-68, and col. 2 lines 20-62), determining whether the code represented by the digit sequence actuates

the locking element to gain access to the restricted-access space (col. 1 lines 43-68, and col. 2 lines 20-62).

Regarding Claims 2-3:

Asher discloses detecting the trigger events during each time interval based on a sequence of signal interruptions caused by the trigger events (figure 2 [The pulses generated by the trigger events interrupt the default low signal being inputted to the electronic lock.]), representing at least part of the sequence of signal interruptions as a sequence of digital logic levels (figure 2 [The pulses generated by the trigger events are logic highs that interrupt the logic low signal that is the default input to the electronic lock.]), comparing the sequence of digital logic levels with a previously entered code to ascertain an equivalence there between (col. 1 lines 43-68).

Regarding Claims 4 and 18:

Asher discloses an alarm that generates an audible signal indicative of an extra digit being entered in the digit sequence (col. 2 lines 52-60).

Regarding Claim 17:

Asher discloses an electronic lock for restricting access by a locking element ("Spring-Bolt Solenoid" col. 3 lines 18-21) to a restricted-access space defined within an enclosure ("Plants, Offices, and Apartments" col. 1 lines 4-42), a trigger-detection element detecting a number of trigger events during successive time intervals ("Series

Parallel Converter" figures 1,3,4 ref# 3, col. 2 lines 20-68, and col. 3 lines 1-2), each time interval having a predetermined duration where the number of trigger events counted during a given time interval can be greater than one (figure 2 and col. 2 lines 20-62 [The predetermined time interval for each digit is based on the number of trigger events to be counted in that time interval and all of the trigger events for a complete digit must occur before the time interval indicating the digit is complete (1.5 seconds).]), a control element receiving indicia associated with the trigger events detected by the trigger detection element ("Comparator" figure 4 ref# 20, col. 4 lines 52-68, and col. 5 lines 1-16), associating the number of trigger events counted in each time interval with one digit of a digit sequence representing a code being submitted to actuate the locking element and gain access to the restricted-access space where each digit of the digit sequence corresponds to the number of trigger events counted during one of the successive time interval and can have a value greater than one (figure 2, col. 1 lines 43-68, and col. 2 lines 20-62), and actuating the locking element to provide access to the restricted-access space in response to the code (col. 1 lines 43-68, col. 2 lines 20-62, col. 4 lines 52-68, and col. 5 lines 1-16).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5-6 and 26 are rejected under 35 U.S.C. 103(a) as being obvious over Asher (US 4,447,850) and Anderson (US 5,021,776).

Asher discloses the above stated electronic lock for actuating a spring-bolt solenoid to allow access to a restricted-access space in response to the user inputting a code that corresponds to the predetermined code, but does not disclose identifying the operating mode based at least partly on a portion of the sequence of signal interruptions, the operating mode corresponding to at least one of a code change request and an access request.

Anderson discloses a keyless electronic combination lock adaptable for placement on a door with changeable entry codes, a lock-out code, and a programming code and audible feedback indicative of the identified operating mode. The entry code can easily be change by entering the programming code, which places the system in the programming mode of operation (abstract, col. 1 lines 52-68, col. 2 lines 1-32, and col. 4 lines 25-29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Schramm to include a mode of operation that allows the user to change the entry code such as that taught by Anderson in order to provide the user maximum convenience for changing the entry code (Anderson col. 1 lines 56-61).

5. Claims 1-2, 7-8, 11-17, 21, and 23-24 are rejected under 35 U.S.C. 103(a) as being obvious over Schramm (US 4,425,597) and Asher (US 4,447,850).

Schramm discloses an electronic locking method and apparatus for actuating a solenoid or similar device ("door unlock solenoid" figure 1) to unlock a car door in response to the user inputting a code that corresponds to the predetermined code (col. 1 lines 6-17). The user actuates the door handle (figure 1 ref# 10S and 10H) in a predetermined sequence, a detecting circuit detects the predetermined sequence of operation of the door opening actuator and generates an unlock signal if the sequence entered by the user corresponds to the predetermined sequence.

Schramm further discloses using flip-flops or registers (figure 2 ref# 44FA, 44FB, 44FC, and 44FD) to count the actuations of the door handle during the 7 second time interval provided by the 555 timer (figures 1-2 ref# 14 and col. 8 lines 59-61) for the user to input the predetermined code (col. 5 lines 31-68, col. 6 lines 1-25, and col. 8 lines 59-68). The number of counted actuations of the door handle can be greater than one. When the predetermined sequence for 4 flip-flops or registers is set to 1111, the door handle must be actuated four times within the 7 second time interval for the user to unlock the car door, thus the flip-flops or registers count the four actuations of the door handle.

Schramm even further discloses the number of counted actuations of the door handle in each time is associated with one digit (a binary 0 or 1) of a digit sequence (a word for the system using 4 registers or a byte for the system using 8 registers) representing a code being submitted to actuate the locking element and gain access to the car (col. 5 lines 4-66).

Schramm does not disclose:

A. counting a number of trigger events associated with a user interface during successive time intervals, each time interval having a predetermined duration where the number of trigger events counted during a given time interval can be greater than one

B. associating the number of trigger events counted in each time interval with one digit of a digit sequence representing a code being submitted to actuate the locking element and gain access to the restricted-access space where each digit of the digit sequence corresponds to the number of trigger events counted during one of the successive time interval and can have a value greater than one

A,B. Asher discloses an electronic lock for restricting access by a locking element ("Spring-Bolt Solenoid" col. 3 lines 18-21) to a restricted-access space defined within an enclosure ("Plants, Offices, and Apartments" col. 1 lines 4-42), counting a number of trigger events during successive time intervals (figure 2 and col. 2 lines 20-62), each time interval having a predetermined duration where the number of trigger events counted during a given time interval can be greater than one (figure 2 and col. 2 lines 20-62 [The predetermined time interval for each digit is based on the number of trigger events to be counted in that time interval and all of the trigger events for a complete digit must occur before the time interval indicating the digit is complete (1.5 seconds).]), associating the number of trigger events counted in each time interval with



one digit of a digit sequence representing a code being submitted to actuate the locking element and gain access to the restricted-access space where each digit of the digit sequence corresponds to the number of trigger events counted during one of the successive time interval and can have a value greater than one (figure 2, col. 1 lines 43-68, and col. 2 lines 20-62), determining whether the code represented by the digit sequence actuates the locking element to gain access to the restricted-access space (col. 1 lines 43-68, and col. 2 lines 20-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Schramm to include an electronic lock that counts a number of trigger events associated with a user interface during successive time intervals, each time interval having a predetermined duration where the number of trigger events counted during a given time interval can be greater than one and associates the number of trigger events counted in each time interval with one digit of a digit sequence representing a code being submitted to actuate the locking element and gain access to the restricted-access space where each digit of the digit sequence corresponds to the number of trigger events counted during one of the successive time interval and can have a value greater than one such as that taught by Asher in to provide a more secure and less expensive electronic lock (col. 1 line 4-31 and co. 2 lines 20-27). The examiner would like to point out that the increased security comes from the greater number of possible combinations to unlock the electronic lock.

Regarding Claims 1-2, 7, 11, 13-14, 16-17, and 23-25:

See Schramm Column 2 lines 30-68, Column 3 lines 1-20, and Figures 1-2

Regarding Claim 2:

Asher discloses detecting the trigger events during each time interval based on a sequence of signal interruptions caused by the trigger events (figure 2 [The pulses generated by the trigger events interrupt the default low signal being inputted to the electronic lock.]), representing at least part of the sequence of signal interruptions as a sequence of digital logic levels (figure 2 [The pulses generated by the trigger events are logic highs that interrupt the logic low signal that is the default input to the electronic lock.]), comparing the sequence of digital logic levels with a previously entered code to ascertain an equivalence there between (col. 1 lines 43-68).

Regarding Claim 12:

See Schramm Column 4 lines 2-7 and figure 1 ref# 42

Regarding Claims 8, 15, and 21:

See Schramm Column 9 lines 4-16

6. Claim 22 is rejected under 35 U.S.C. 103(a) as being obvious over Schramm (US 4,425,597) and Asher (US 4,447,850) and Godau (US 5,781,125).

The above stated combination of Schramm and Asher discloses an electronic locking method and apparatus for actuating a solenoid or similar device to unlock a door

in response to the user inputting a code that corresponds to the predetermined code using optical relay switches to sense the movement of the door handle (Schramm col. 9 lines 4-14), but does not disclose that the optical relay operate in the infrared bandwidth.

Godau discloses a wireless exchange of data between two devices in a motor vehicle using infrared relays which contain infrared transmitting and receiving parts (col. 4 lines 22-27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the above stated combination of Schramm and Asher to include using optical relay switches that operate in the infrared bandwidth such as that taught by Godau in order to prevent the optical relay switches from transmitting extraneous switching data caused by the ambient light in the environment.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

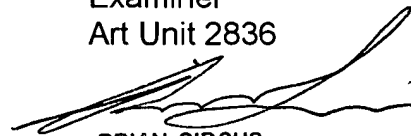
8. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure. A note to applicant: While reference numbers, figures, and cited locations in the prior art are provided, it is respectfully requested that applicant consider the prior art references in their entirety.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brett S. Squires whose telephone number is (571)272-2268. The examiner can normally be reached on 9am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800 x 36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brett S Squires  
Examiner  
Art Unit 2836



BRIAN SIRCUS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800